

**ABSTRACT****METHOD AND DEVICE FOR THE FOURTH-ORDER, BLIND  
IDENTIFICATION OF AN UNDER-DETERMINED MIXTURE OF SOURCES**

5

A method for the fourth-order, blind identification of at least two sources in a system comprising a number of sources  $P$  and a number  $N$  of reception sensors receiving the observations, said sources having different tri-spectra.

- 10 The method comprises at least the following steps: a step for the fourth-order whitening of the observations received on the reception sensors in order to orthonormalize the direction vectors of the sources in the matrices of quadricovariance of the observations used; a step for the joint diagonalizing of several whitened matrices of quadricovariance in order to
- 15 identify the spatial signatures of the sources. Application to a communication network.

Figure 3 to be published.